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1. Hydroprojekt, Central Office for Studying and planning Hydraulic Constructions, Gliwice Branch.

NOWACKI, Jerzy, mgr inz.; PILOTEK, Jerzy, mgr inz.

Pilot scale investigations on biological, physical, and chemical purification of waste waters from sulfate pulp production. Pt. 1. Przegl papier 20 no.7:226-228 Jl '64

1. Typical Design Office of Industrial Sewage Purification Plants, Gliwice.

NOWACKI, Jerzy, mgr inz.; PILOTEK, Jerzy, mgr inz.

Semicommercial studies on the biological and physicochemical treatment of sewages from the production of sulfate pulp. Pt.2. Przegl papier 21 no.2:51-53 F '65.

1 Biprotosp, Design Office of Typical Industrial Sewage Treatment Plants, Gliwice.

NOWACKI, J.

Preventive application of vitamins C and B_1 in factories producing batteries; preliminary communication. Med. pracy 4 no.3:205-210 1953. (CLML 24:5)

1. Of the Therapeutic Research Center of Occupational Diseases (Head--Prof. A. Horst, M.D.) of Poznan Medical Academy.

NOWACKI, J.

MULAREK, J.; NOWACKI, J.

Toxic effect of insecticide duolit. Med. pracy 5 no.1:47-56 1954.

1. Z Osrodka Badawczo-Leczniczego Chorob Zawodowych i z Zakladu Patologii Ogolnej i Doswiadczalnej Akademii Medycznej w Poznaniu. Kierownik: prof. dr H.Horst.
(DDT, toxicity,)

NOWACKI, J.

Graphic method of analyzing occupation diseases and accidents at work. p.369
OCHRONA PRACY; BEZPIECZENSTWO I HIGIENA PRACY (Ministerstwo Pracy i Opieki Spolecznej i Centralny Instytut Ochrony Pracy) Warszawa
Vol. 9, no. 11, Nov. 1955

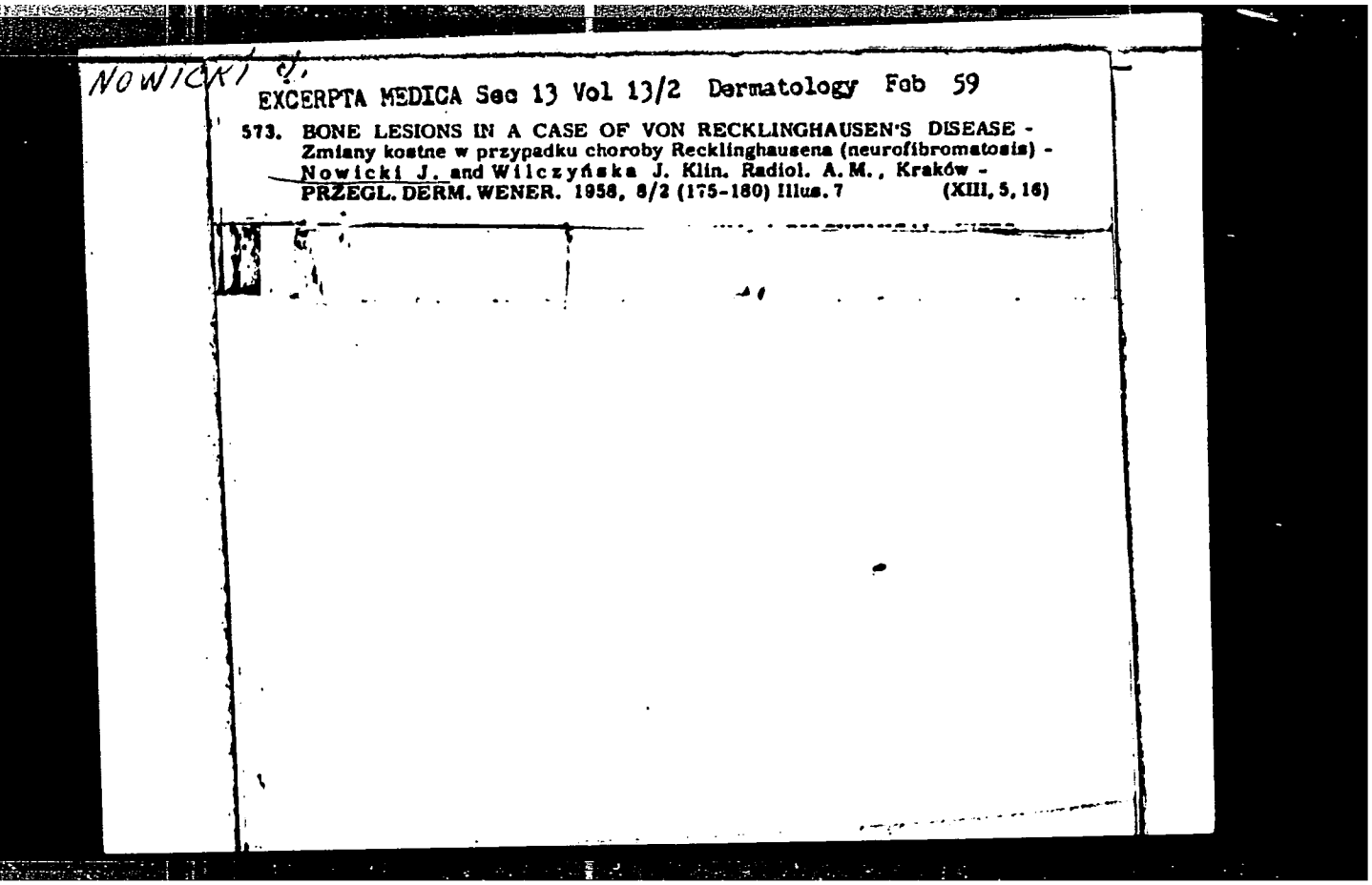
So. East European Accessions List Vol. 5, No. 1 Jan. 1956

NOWACKI, J.

"The prophylactic administration of vitamin C."

p. 11 (Ochrona Pracy; Bezpieczenstwo I Higiena Pracy) Vol. 10, no. 3,
Mar. 1956
Warsaw, Poland

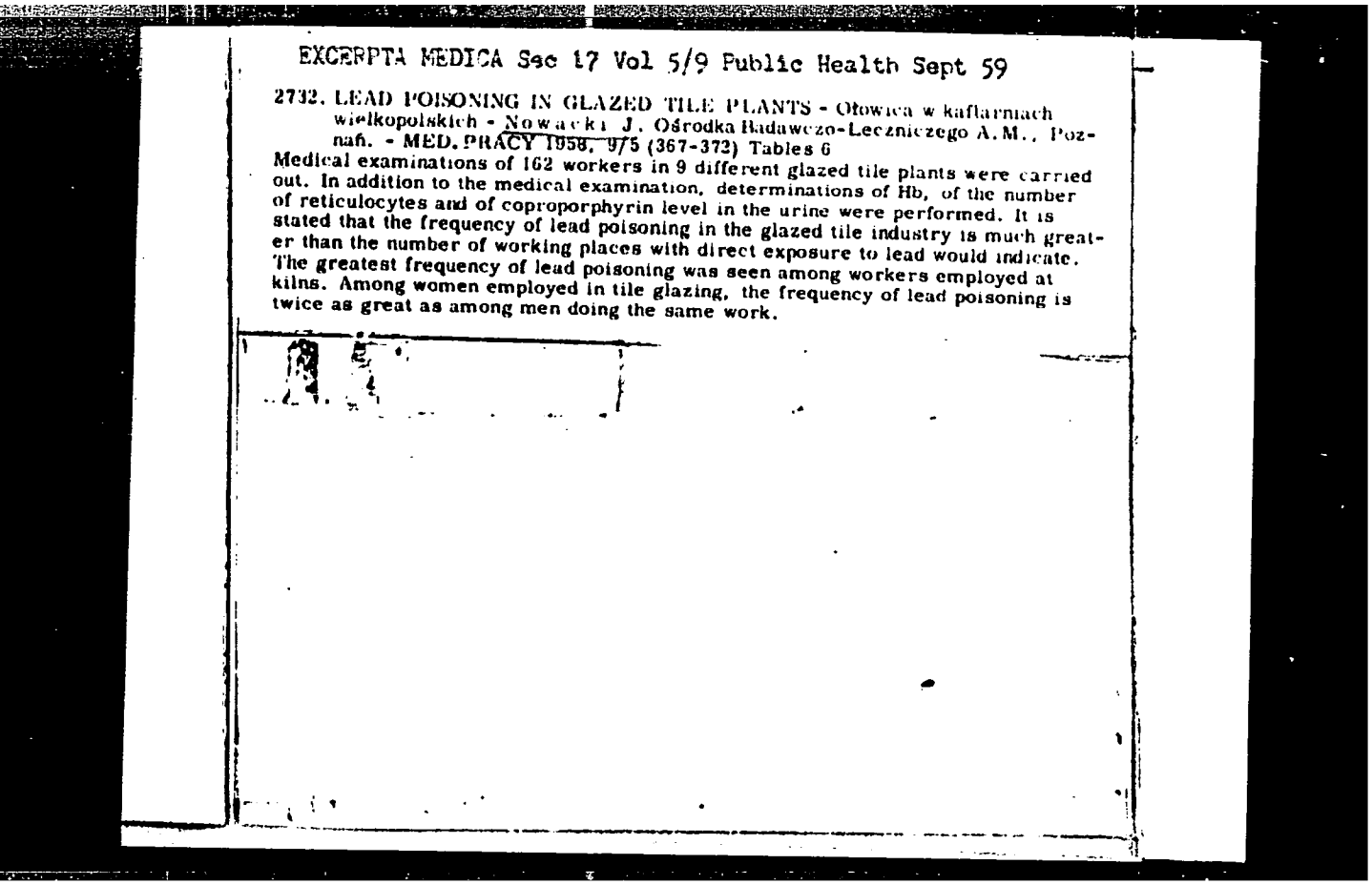
SO: Monthly Index of East European Accessions (EEAI) LC. Vol. 7, no. 4,
April 1958



NOWICKI J.

EXCERPTA MEDICA Sec 13 Vol 13/2 Dermatology Feb 59

573. BONE LESIONS IN A CASE OF VON RECKLINGHAUSEN'S DISEASE - Zmiany kostne w przypadku choroby Recklinghausena (neurofibromatosis) - Nowicki J. and Wilczyńska J. Klin. Radiol. A.M., Kraków - PRZEGL. DERM. WENER. 1958, 8/2 (175-180) Illus. 7 (XIII, 5, 16)



EXCERPTA MEDICA Sec 17 Vol 5/9 Public Health Sept 59

2732. LEAD POISONING IN GLAZED TILE PLANTS - Ołowica w kaflarniach wielkopolskich - Nowacki J. Ośrodka Badawczo-Leczniczego A.M., Poznań. - MED. PRACY 1958, 9/5 (367-372) Tables 6

Medical examinations of 162 workers in 9 different glazed tile plants were carried out. In addition to the medical examination, determinations of Hb, of the number of reticulocytes and of coproporphyrin level in the urine were performed. It is stated that the frequency of lead poisoning in the glazed tile industry is much greater than the number of working places with direct exposure to lead would indicate. The greatest frequency of lead poisoning was seen among workers employed at kilns. Among women employed in tile glazing, the frequency of lead poisoning is twice as great as among men doing the same work.

NOWACKI, Jozef; SIKORSKI, Maciej

Chelaton therapy of acute thallium poisoning. Polski tygod. lek. 13 no.48:1931-1933 1 Dec 58.

1. (Z Oddzialu Chorob Zawodowych Szpitala Miejskiego im. Fr. Raszeji w Poznaniu; ordynator: prof. dr med. A. Horst). Adres: Poznan, ul. Poznanska 55. OSR. Bad-Leczniczy Chorob Zawodowych Wewn. A.M.

(THALLIUM, pois.
ther., edathmil (Pol))
(EDATHAMIL, ther. use
thallium pois. (Pol))

NOWACKI, [illegible], mgr.

In memory of Cyprian Edward Lasocki. Chemik 18 no.1:36 Ja '65.

NOWACKI, Mieczyslaw; SOLTYS, Antoni

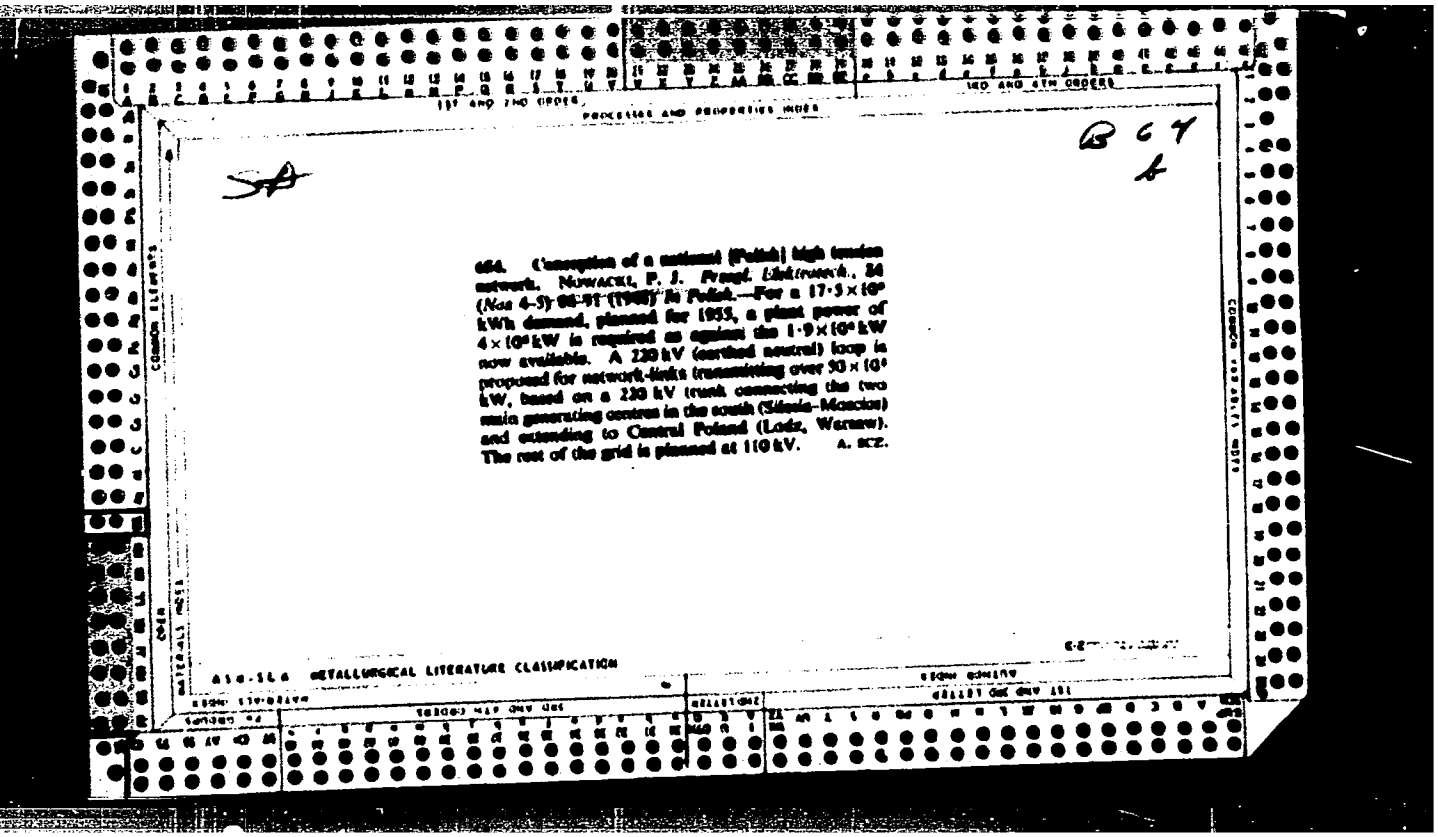
Possibilities of using Helanthrene Blue printing in view of the redox potential. Przegl wlokien 16 no.4:220-224 Ap '62

1. Instytut Przemyslu Organicznego, Lodz.

BROSS, Wiktor; KLISIECKI, Andrzej; NOWACKI, Pawel; KOCZOROWSKI, Stefan; TOPINSKI, Stanislaw; ARONSKI, Antoni

Experimental measurements of intracardiac temperature during flow of various defibrillating currents. Acta medica polona 3 no.3:231-236 '62.

1. II Surgical Clinic, Medical Academy, Wroclaw Director: Prof. Dr. W. Bross Department of Physiology, Medical Academy, Wroclaw Director: Prof. Dr. A. Klisiecki The Electrotechnical Institute of the Polish Academy of Sciences, Warsaw Director: Prof. Dr. P. Nowacki.
(VENTRIBULAR FIBRILLATION)



684. Conception of a national [Polish] high tension network. NOWACKI, P. J. *Przegl. Elektrotech.*, 24 (Nos 4-5) 86-91 (1948) In Polish.—For a $17{\cdot}5 \times 10^9$ kWh demand, planned for 1955, a plant power of 4×10^6 kW is required as against the $1{\cdot}9 \times 10^6$ kW now available. A 220 kV (earthed neutral) loop is proposed for network-links transmitting over 90×10^3 kW, based on a 220 kV trunk connecting the two main generating centres in the south (Silesia–Moscice) and extending to Central Poland (Lodz, Warsaw). The rest of the grid is planned at 110 kV. A. SCZ.

NOWACKI, P. J.

Nowacki P. J.

Nowacki P. J., Prof. Dr. Eng. "Calculation of Magnetic Fields in Electric Machines by Relaxation Method." (Obliczanie pol magnetycznych w maszynach elektrycznych metoda rozprezen.) Przeglad Elektrotechniczny. No 1-2-3, 1950, pp. 18-22, 11 figs.

A method is advances for the calculation of magnetic and electric fields as applied especially to electric machines. Mathematically, the problem is solved by applying the equations of differences instead of the Laplace or Poisson differential equations. The method advanced is generally applicable to any shape and any boundary conditions and does not need the use of higher mathematical formulas. A detailed example is quoted of computing the ideal length of a D. C. machine armature with ventilating ducts.

SO: Polish Technical Abstracts - No. 2, 1951

NOWACKI, PAWEL JAN

Atlas konstrukcji maszyn elektrycznych. Warszawa, Panstwowe Wydawn. Techniczne, 1951.
/Atlas for the construction of electrical machines. Vol. 2. Asynchronous motors/

SO: Monthly List of East European Accessions, Vol. 3, No. 2, Library of Congress, Feb. 1954, Uncl.

NOWACKI, P.

Polish Technical Abst.
No. 1 1954
Mechanics, Electrotechnics, Power

2585
Nowacki P. Automatization of Production Processes. 621-523

„Automatyzacja procesów wytwórczych". Przegląd Elektrotechniczny, No. 1, 1953, pp. 2–5, 8 figs.

Specification of automatisation systems in production processes. Technical equipment required for this purpose. The article deals with the systems of operation, individual and group automatisation. This latter is subdivided into an open and closed system. Elements of these systems. Present state of automatisation of technological processes, and prospects for further development.

NOWACKI, P

3791 621.316.13.027.3 : 621.3.014.3

*Skoczyński Z., Nowacki P. Short Circuits in High Voltage Power Systems.

„Zwarcia w wysokonapięciowych układach elektroenergetycznych", Warszawa, 1954, PWT, 16°, 632 pp.

A general analysis of short circuits occurring in high voltage power systems with an O point earthed directly or by means of low resistance. Methods of calculating symmetric short circuit initial currents, analysis of short circuits in a synchronous alternator, as well as methods of calculating asymmetric short circuit currents and tensions are discussed. This description of calculating methods is supplemented with examples of short circuit calculating methods commonly used in practice. The book includes many sketches, practical examples and tables.

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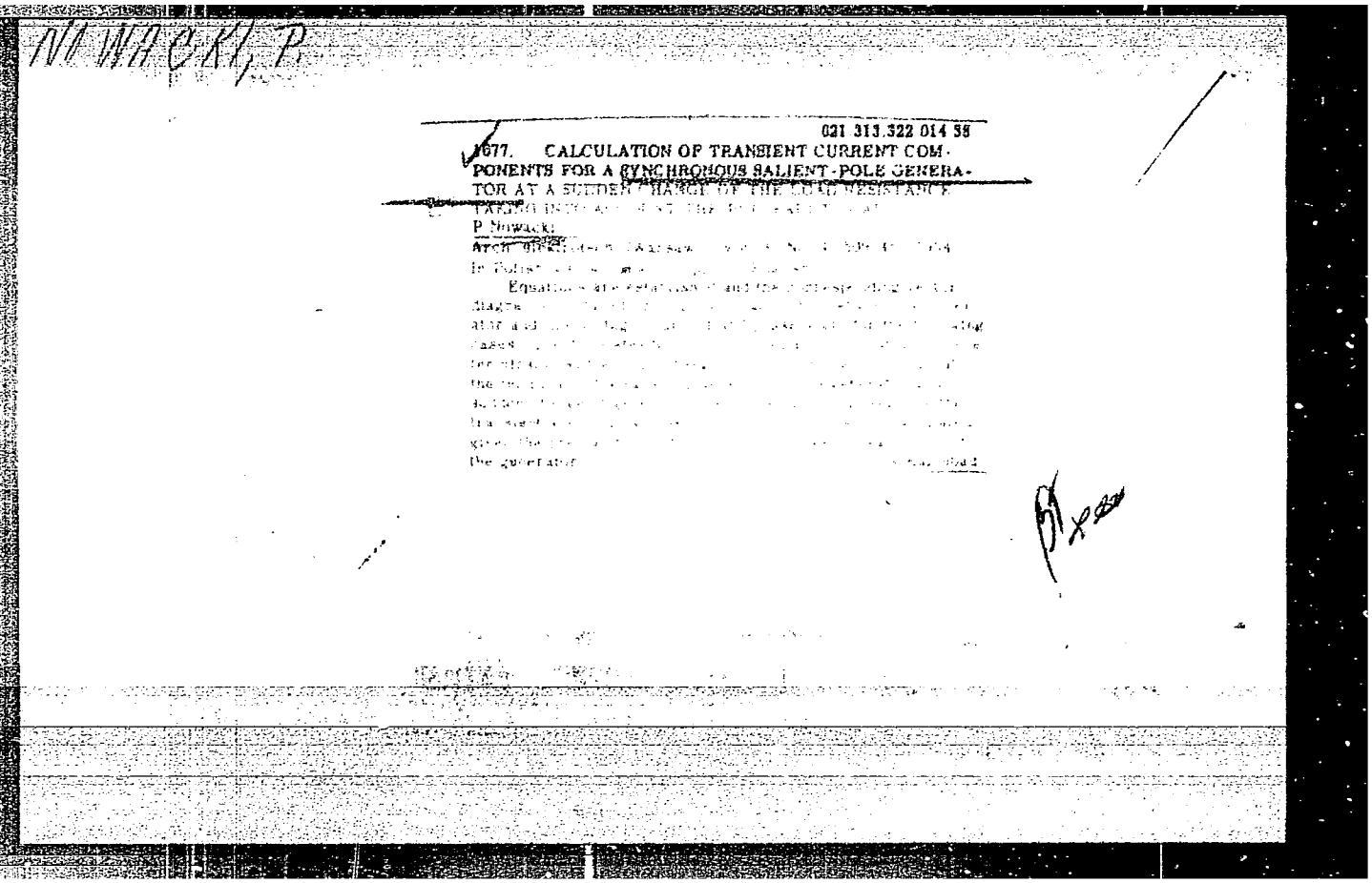


NI WACKI, P.

021 313.322 014 58

1677. CALCULATION OF TRANSIENT CURRENT COMPONENTS FOR A SYNCHRONOUS SALIENT-POLE GENERATOR AT A SUDDEN CHANGE OF THE FIELD RESISTANCE

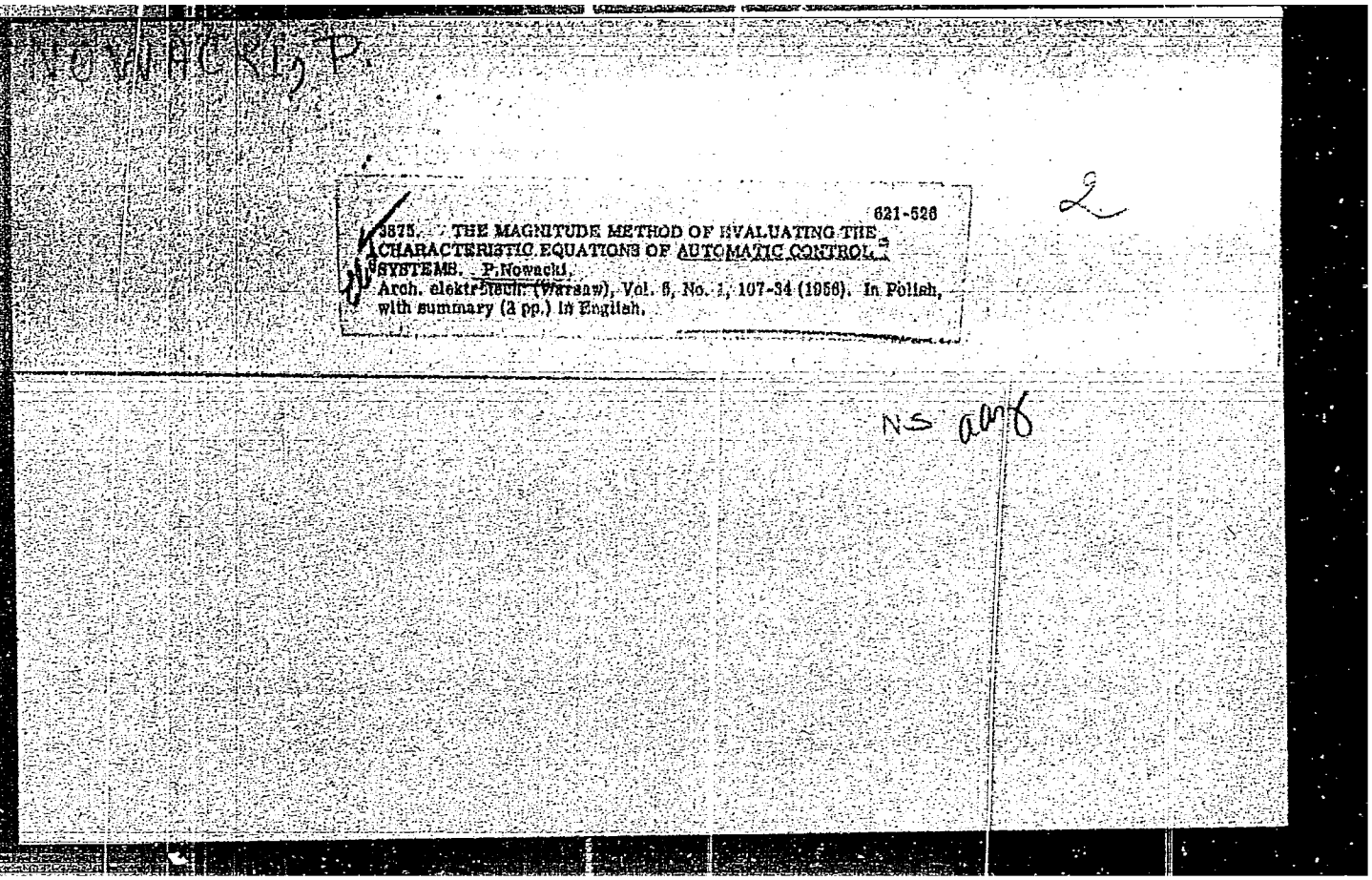
P. Siwacki

[illegible], I.

Frequency and active power control in electric power systems. [illegible]

I. 107 ([illegible]) Roland, Bd. 1, Nr. 3 L, 1956

[illegible]: Monthly Index of East European Accessions [illegible] No. 6, [illegible], November 195[illegible]



621-526

3875. THE MAGNITUDE METHOD OF EVALUATING THE CHARACTERISTIC EQUATIONS OF AUTOMATIC CONTROL SYSTEMS. P.Nowacki.
Arch. elektrotech. (Warsaw), Vol. 5, No. 1, 107-34 (1956). In Polish, with summary (2 pp.) in English.

NOWACKI, Pawel Jan

Introducing metals into vegetable oils by means of electrical discharges of direct current. Medicinal application of resulting products. Józef Kubicz, Michał Masiak, and Paweł Jan Nowacki. *Acta. Polon. Pharm.* 13, 139–45(1956) (English summary).—Mg was diffused into linseed oil (I) from charged Mg electrodes. After the adsorbed Mg was sepd. from I, the I showed increased sapon. and ester nos., and a reduced iodine no. Zn, Te, Se, Co, Ca, and Al, were introduced similarly. The tests with Zn, Te, Co, and Mg resulted in highly metallized I. The I-contg. dispersed Mg had healing properties for wounds. P. Dreyfuss

3

NOWACKI, Pawel Jan; FRANKOWSKI, Waclav

Outlook for use of nuclear energy in Poland. Jaderna energie 3 no.12: 414-416 D '57

1. Vysoka skola technicka, Varsava (for Nowacki).
2. Ustav pro jaderny vyzkum (for Frankowski).

NOWACKI, P.

"Calculating the fundamental frequency of complex magnetic circuits fed with voltage and current from a sinusoidal source."

p. 441 (Archiwum Elektrotechniki) Vol. 6, no. 3, 1957
Warsaw, Poland

SO: Monthly Index of East European Accessions (EEAI) LC. Vol. 7, no. 4, April 1958

NOWACKI, P

5559 621.317.4

Nowacki P., Nałęcz M. Methods of Measuring Low Constant Magnetic Fields. 2/

„Metody pomiaru małych stałych pól magnetycznych". Przegląd Telekomunikacyjny. No. 9, 1957, pp. 261—268, 16 figs.

3

An evaluation of all known methods of measurement has demonstrated that for the measurement of magnetic field in the gap of an electromagnet the most convenient method is that of immobile coil connected with a galvanometer reacting to the field changes caused by switching in and out of the magnetizing current, while for the measurement of earth's field (up to 10^{-2} oersted) any method can be employed which ensures an adequate value of the minimum measuring range. From the point of view of obtaining very low measuring ranges, the most suitable methods at present are the modern ones based on saturated double-core or bridge type testing gauges, which make it possible to obtain at a supply frequency of 50 cycles a sensitivity of 1 millioersted per scale division. This range can be further lowered by increasing the frequency, which, however, considerably puts up the cost of instruments because in this case it is necessary to use an acoustic generator, filters and an amplifier. Moreover, the saturated testing gauge method is the most suitable for testing the properties of magnetic materials because of the reduced time of measurement, high sensitivity and small dimensions of the testing gauge.

EW 11

POLAND/Nuclear Physics - Nuclear Power and Technology C

Abs Jour : Ref Zhur Fizika, No 8, 1959, 17491

Author : Andrzejewski, S., Latour, J., Nowacki, P.J., Taube, M., Pomerski, R.

Inst :

Title : The Perspectives of the Polish Nuclear Energy Program.

Orig Pub : Nukleonika, 1958, 3, Spec. Number, 1-10.

Abstract : No abstract.

Card 1/1

304. **Measurement of intracardiac temperatures during the electrical defibrillation of the heart. Effect of various voltages** Doswiadczalne pomiary cieplot[illegible]wej w czasie przeplywu roznych pradow defibrylujacych. Bross W., Kulisiecka A., Nowacki P., Koczorowski S., Topinski S. and Aronski A. Zakl. Fizjol. A. M., Wroclaw; Zakl. Elektrotechn. PAN, Warszawa *Kardiol. pol.* 1958, 1 5 (291 - 296) Tables 1 Illus. 3

Ventricular fibrillation was provoked in dogs by applying low voltage directly to the heart. The experiment was made in 18 anaesthetized animals. Currents of 120 and 220 v. a.c. were used for defibrillation. Intracavital and intramural temperatures of the heart were measured with the thermistor thermometer. In some animals a current of 120 v. did not stop the fibrillation and 220 v. had to be used for effective defibrillation. These voltages did not cause any dangerous increase of intracardiac temperature if the duration of electrical impulses did not exceed 0.1 - 0.2 sec. When applying 220 v. for 2 sec. a 15° C. rise of temperature was observed. This increase may cause coagulation of the myocardium. The authors are of the opinion that a current of 220 v. may be safely applied for 3—4 defibrillating impulses lasting not more than 0.1—0.2 sec. each. (XVIII, 9)

POLAND/Nuclear Physics - Nuclear Power and Technology C-8

Abs Jour : Ref Zhur - Fizika, No 12, 1958, No 27058

Author : Nowacki Pawel Jan
Inst : Not Given
Title : Plans for the Development of Nuclear Power in Poland.

Orig Pub : Nukleonika, 1958, 3, No 1, 3-13

Abstract : No abstract

Card : 1/1

POLAND / Chemical Technology. Chemical Products and H
Their Applications. Electrochemical Industries.
Electroplating. Galvanic Cells.

Abs Jour: Ref Zhur-Khimiya, 1959, No 4, 12423.

Author : Nowacki, Pawel; Gorski, Andrzej; Walecz, Maciej.
Inst : Not given.
Title : Fuel Elements.

Orig Pub: Rozpr. elektrotechn., 1958, 4, No 1, 53-67.

Abstract: A scheme for fuel-element function is cited as well as a classification of these elements based on the difference in their source of emf (direct and indirect reaction), type of electrolyte (liquid, condensed gas, solution of fused salt), aggregate condition of fuel, conditions of temperature and pressure. Known oxyhydrogen elements are described (of Davtyan, Bacon), and forecasts of their development are indicated. -- From the authors' resume.

Card 1/1

NOWACKI P.

"Asynchronous connection of synchronous engines. In French"

p. 121 (Archiwum Elektrotechniki Vol 7, no. 2, 1958, Warsaw, Poland)

Monthly Index of East European Accessions (EEAI) LC Vol, 8, no. Jan 59.

NOWACKI, P.; DRYZEK, T.

"The problems of nuclear-power engineering in underdeveloped countries at the 9th Sectional Meeting of the World Power Conference in Belgrade, June 5-11, 1957."

p. 13 (Przeglad Elektrotechniczny) Vol. 34, no. 1, Jan. 1958
Warsaw, Poland

SO: Monthly Index of East European Accessions (EEAI) LC. Vol. 7, no. 4, April 1958

P/021/60/000/012/001/001
A107/A026

AUTHOR: Nowacki, P.J., Professor, Doctor

TITLE: Nuclear Reactors on Industrial Scale

PERIODICAL: Przegląd Elektrotechniczny, 1960, No. 12, pp- 513 - 514

TEXT: The article deals with an unspecified conference on which various problems in the field of nuclear reactors were discussed. The author stresses that two facts were decisive for the problem, i.e., the foreseen shortage of conventional fuels did not become true and the technology of nuclear reactors means a competition for power engineering, but without economic effect. The economy of operation depends on the cost of fuel and on its Mw burn-up/ton power. The nuclear energy is used for driving sea vessels and for the production of thermal energy, whereas the utilization of γ-rays and radioactive isotopes is planned. The author citing W.L. Cisler (Ref. 2), classifies the reactors in 15 groups. Papers read by French scientists L. Maillard and B. Leo (Ref. 4) and I. Roux and C.N. Leduc (Ref. 8) dealt with the development of reactors in France. The Swedish representatives E.G. Malmlöw, C. Millekowsky, S. Ryman and J. Wivstad (Ref. 1) treated a heavy water reactor; P.G. Afable, C.P. Nuguid and M.R. Eugenio (Ref. 3) and G.E. Villar (Ref. 6) treated the possibilities for reactors in underdeveloped countries, i.e.

Card 1/2

Nuclear Reactors on Industrial Scale

P/021/60/000/012/001/001
A107/A026

the Philippines and Uruguay; G. Cesoni (Ref. 5) dealt with nuclear powered sea vessels stating that the future of battleships is guaranteed, and F.K. Pittman (Ref. 7) gave an outlook on the use of nuclear energy in various industries, stressing its use in the chemical industry. The French representatives Audriot, O. Martin, C. Leduc and R. Genthial discussed results obtained with G, G_2 and G_3 reactors in Marcoule. The French representative Charbonnier discussed the reactor in Halden, Norway, which started work on October 10, 1959. The Hungarian reresentative Professor Levai, and the Dutch representative Schaafsma, emphasized the necessity of investigating thermal cycles in nuclear electric power plants. There are 8 references: 4 English, 3 French, and 1 Spanish.

Card 2/2

P/021/61/000/003/001/001
A078/A126

AUTHORS: Nowacki, Pawel Jan, Professor Doctor and Celiński, Zdzisław, Master of Engineering

TITLE: Conversion of heat into electric power

PERIODICAL: Przegląd Elektrotechniczny, no. 3, 1961, 97 - 105

TEXT: Recent developments of nuclear reactors show that the classical steam-cycle is not the best way of converting heat into electric power. The authors study three particular methods of immediate conversion: 1) thermoelectric, based on thermoelectric phenomena; 2) thermionic, based on the emission of electrons from a hot surface; 3) magnetohydrodynamic, based on the reciprocal reaction between a magnetic field and a gas conductor in motion. The thermoelectrical generators, known for more than a hundred years now, have recently seen their possibilities increased by the use of semiconductors.The authors give a brief description of the thermoelectrical generator SNAP III built in the USA in January, 1959. The authors describe two prototypes of thermionic generators built at Los Alamos (USA). The authors describe the research carried out on magnetohydrodynamic generators by Avco-Everett for the USAF. In Poland, studies of

Card 1/ 2

Conversion of heat into electric power

plasmotrons and MHD generators are carried out in the Instytut Badań Jądrowych (Institute for Nuclear Research). In January 1961, the first MHD generator has begun to operate. In conclusion the authors state that ten US firms are interested in the development of MHD generators, and have organized a research program, including: basic research on the production of electric power in MHD; means of increasing the gas conductivity; materials withstanding high temperatures; utilization in connection with nuclear reactors; possibilities of a direct production of a-c; economic and technical study of MHD power plants. There are 27 figures, 3 tables and 29 references: 4 Soviet-bloc and 25 non-Soviet-bloc. The references to the 4 most recent English-language publications read as follows: Ref. 1: B.C. Lindley: The Direct Generation of Electricity (Nuclear Power, 1960, June, 100-103, July, 80-83); Ref. 2: R.C. Umler; J.O. Sensenbaugh : Direct Conversion of Energy to Electricity (Combustion, 1960, August, 30-38); Ref. 4: W.E. Shoupp: Thermoelectric Direct Conversion in Nuclear Reactors (Nuclear Energy, 1960, October, 458 - 461); Ref. 22: Power Direct from Hot Gas (Engineering, 1960, 22 January, z. 4892, 118).

ASSOCIATION: Katedra Energetyki Jądrowej Politechniki Warszawskiej (Department of Nuclear Energy Warsaw Polytechnic)

NOWACKI, Pawel Jan, prof.,dr.,inż.

The use of atomic energy in Poland for peaceful purposes.
Przegl techn 81 no.19:11 '60.

S/196/62/000/010/002/035
E073/E155

AUTHOR: Nowacki, P.J.

TITLE: Theory of the magnetohydrodynamic generator with a constant area

PERIODICAL: Referativnyy zhurnal, Elektrotekhnika i energetika, no.10, 1962, 8, abstract 10 A35. (Inst. badań jądrow. PAN, no.215, 1961, 16 pp) (English, with summaries in Polish and Russian)

TEXT: Basic equations are given for calculating magneto-hydrodynamic generators with a constant nozzle cross-section. Formulae are derived for the electric current and power output, and design problems are considered. A new approximate formula is given for determining the internal thermodynamic efficiency.

[Abstractor's note: Complete translation.]

Card 1/1

P/005/61/000/006/005/005
A076/A026

AUTHOR: Nowacki, P.J., Professor, Doctor of Engineering

TITLE: Industrial Utilization of Nuclear Energy Requires Qualified Personnel

PERIODICAL: Przegląd Techniczny, 1961, No. 6, p. 14

TEXT: The author discusses the need of qualified personnel for employing nuclear energy in industry. The new test methods based on nuclear energy found wide application in industry, with the result that young engineers must be trained in this subject. Higher technical schools should reduce the number of hours spent on theoretical studies and devote more time on experiments in laboratories. Correspondence courses on nuclear energy application, isotopes in industry, etc, should be extended, since at present only 3 institutes teach this subject, viz. the Uniwersytet Warszawski (Warsaw University): nuclear chemistry; the Politechnika Warszawska (Warsaw Polytechnical Institute): nuclear power engineering; and the Akademia Górniczo-Hutnicza (Academy of Mining and Metallurgy) in Krakow: application of isotopes. Further, production of isotopes should be increased, since not enough isotopes are being produced by the nuclear reactor in Świerk operated by

Card 1/2

P/005/61/000/006/005/005
A076/A026

Industrial Utilization of Nuclear Energy Requires Qualified Personnel

the Instytut Badań Jądrowych (Institute of Nuclear Research). It is planned to design and build a second nuclear reactor with the aid of Soviet scientists from 1961 to 1965. Further research should be conducted on direct production of electric energy from thermal processes with the aid of thermoelectric, thermo-nuclear and magnetohydrodynamic generatros.

Card 2/2

NOWACKI, Pawel Jan

The theory of the magnetohydrodynamic generator with constant area. Nukleonika 6 no.9:539-554 '61.

1. Polish Academy of Sciences, Institute of Nuclear Research, Warsaw.

NOWACKI, P.J., prof.

Prospects of reactors for the production of electric power.
Przegl techn no.47:8 25 N '62.

1. Panstwowa Rada do Spraw Wykorzystania Energii Jadrowej, Warszawa.

NOWACKI, P.J.; BRZOZOWSKI, W.S.; CELINSKI, Z.

Experimental MHD-generator using combustion gases (gas burner) as heat source. Bul Ac Pol tech 10 no.5:[287]-[292] '62.

1. Chair of Nuclear Engineering, Technical University, Warsaw, and Institute of Nuclear Research, Warsaw. Presented by P.J.Nowacki.

NOWACKI, Pawel, J., prof.dr inz.

Utilization of nuclear power and technological progress. Przegl techn no.46:2-3 18 N '62.

NOWACKI, S.; SWINIARSKI, M.

"Struggle for Improvement of the Quality of Meat Products in the Meat Products Factory in Lodz." p. 41, (GOSPODARKA MIESNA, Vol. 6, No. 2, Feb. 1954. Warszawa, Poland.)

SO: Monthly List of East European Accessions, (EEAL), LC, Vol. 3, No. 12, Dec. 1954, Uncl.

NOWACKI, S.; SWINIARSKI, M.

"Rationalizers and Leading Workers of the Stalinogrod Meat Products Factory." p. 42, (GOSPODARKA MIESNA, Vol. 6, No. 2, Feb. 1954. Warszawa, Poland.)

SO: Monthly List of East European Accessions, (EEAL), LC, Vol. 3, No. 12, Dec. 1954, Uncl.

NOWACKI, SL

NOWACKI, S. From the discussion on the 5-year Plan in the forest industry. p.65.

Vol. 7, no. 3, Mar. 1956
PRZEMYSL DRZEWNY.
TLCHNOLOGY
Warszawa, Poland

So. East European Accession Vol. 6, no. 2, 1957

NOWACKI, TADEUSZ

Ciagnik Zetor 25. Warzawa, Panstwowe Wydawn. Rolnicze i Lesne, 1952. 170 p.
(Ciagniki rolnicze) (The Zetor 25 tractor)
DA Not in DLC

SO: Monthly List of East European Accessions (EEAL) LC, Vol. 6, no. 7, July 1957. Uncl.

NOWACKI, T.

"Proper utilization of the hydraulic jack in a Zetor-25tractor" (p. 39) MECHANIZACJA I ELEKTRYFIKACJA ROLNICTWA (Panstwowe Wydawnictwo Rolnicze i Lesne) Warszawa, Vol 6, No 2, Apr/June 1953.

SO: East European Accessions List, Vol 3, No 8, Aug 1954

NOWACKI, T.

"New Czechoslovak Zetor-35 tractors" (p. 57) MECHANIZACJA I ELEKTRYFIKACJA ROLNICTWA (Panstwowe Wydawnictwo Rolnicze i Lesne) Warszawa, Vol 6, No 2, Apr/June 1953.

SO: East European Accessions List, Vol 3, No 8, Aug 1954

NOWACKI, T.

"Farm machinery for interrow culture" p. 12 (plon, Vol. 4, No. 5, May 1953, Warszawa)

SO: Monthly List of East European Accessions, Vol. 3, No. 3 Library of Congress, March 1954, Uncl.

NOWACKI, T.

"Implements attached to tractors." p. 24
(Plon, Vol 4 No 4 Apr 53 Warszawa)

SO: Monthly List of East European Accessions, Vol 2 No 9 Library of Congress Sept 53 Uncl

NOWACKI, T.

Problems of startingthe Zetor 25 engine, p. 5. (ROCZNIKI NAUK ROLNICZYCH, Warszawa, Vol. 66, no. 3, 1954)

SO: Monthly List of East European Accessions, (EEAL), LC, Vol. 4, No. 6, Jun. 1955, Uncl.

NOWACKI, T.

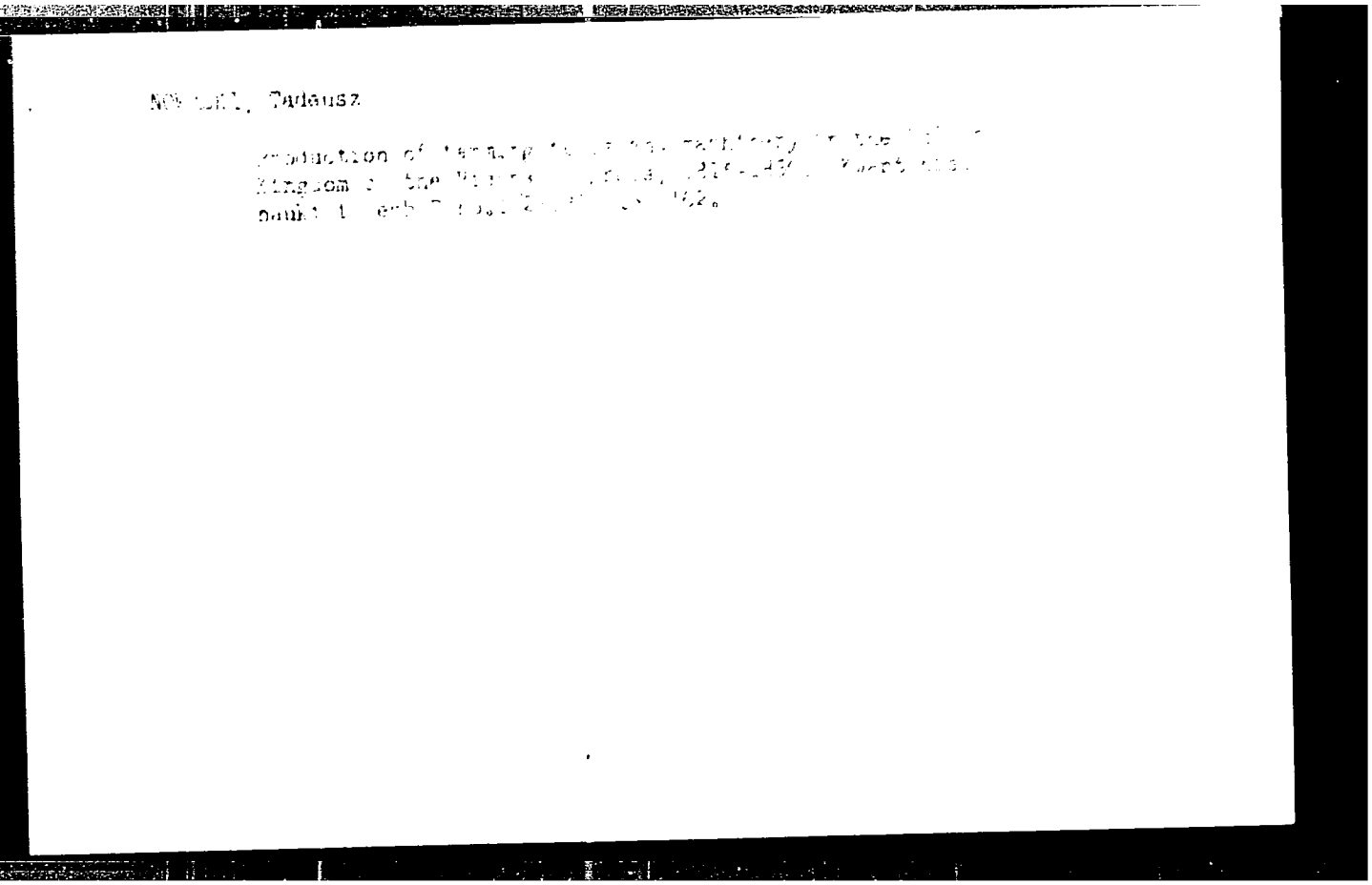
"Narzędzia zawieszane na traktorach" (Tools suspended on tractors), by T. Nowacki. Reported in New Books (Nowe Ksiazki), No. 14, July 15, 1955

NOWACKI, TADEUSZ

Ciagniki rolnicze i samochody. [Wyd.1.] Warszawa, Panstwowe Wydawn. Rolnicze i Lesne, 1956. 578p. [Agricultural tractors and automobiles. 1st. ed. illus., diagrs. graphs.]

DA Not in DLC

SO: Monthly List of East European Accessions (EEAL) LC, Vol. 6, No. 10, October 1957. Uncl.



Tadeusz

NOWACKI, Tadeusz

Method of determining the level of mechanization of agricultural works. Zesz probl post nauk roln no 44:157-176 '64.

1, Central College of Agriculture, Warsaw.

NOWACKI, Tadeusz

Answering Marian Wachowski's critic. Kwart hist nauki i tech 7 no.4:543-551 '62.

Nowacki, W. The bending of compressed continuous plate. Arch. Méc. Appl., Gdańsk 1, 67–70 (1949). (Polish. English summary)

The author presents the solution of the partial differential equation governing the deflection w of a rectangular isotropic plate loaded uniformly with the load p and compressed by a load q distributed uniformly along the edges in the plane of the plate. He discusses three cases: (1) a plate of infinite length compressed longitudinally, (2) a plate of infinite length compressed transversally; (3) a rectangular plate simply supported, compressed by a concentrated force p. The solutions, which are in the form of trigonometric series, lead to the conclusion that the plate is destroyed, i.e. the stresses will be in the plastic region, only if with q equal to its critical value for buckling and only for very small compressive loads q will the load p approach the critical limit.

T. Leser (Lexington, Ky.).

Nowacki, Witold. The bending of a compressed continuous plate. Proc. Seventh Internat. Congress Appl. Mech., 1948, v. 1, pp. 160–173.

This appears to be a translation of the paper reviewed above.

H. D. Conway (Ithaca, N. Y.).

Mathematical Reviews. Vol 11 No. 4

Applied Mechanics Reviews

Plates, Disks, Shells, Membranes

26

235 **W. Nowacki, Bending of infinitely long continuous plates** (in Polish), Arch. Mech. Stos. 1, 173–189 (1949).

The author considers a "thin" plate subdivided into longitudinal sections by means of parallel rigid straight line supports. The uniform section thickness varies from section to section. These loads are symmetric relative to an axis perpendicular to the supports, parallel to them, and constant across the plate. Fourier integrals lead to a solution in the form of three-term equations analogous to the three-moment equations of a continuous beam. The unknowns are the moments at the supports or the loads at the support. The solutions of Nádai [Bauingenieur, 1921] and Girkmann [Sitzungsber. Akad. Wiss. Wien 101a, no. Hft. 2, 589] are special cases of that paper. Other valuable applications are given.

M. T. Huber, Poland

1950

Nowacki, W.

Nowacki, W. Quelques cas particuliers de flambage des plaques. Arch. Méc. Appl., Gdańsk 2, 107–122 (1950). (Polish. French summary)

The author considers two cases: 1. A plate of infinite length freely supported on the edges, compressed at the edges by a distributed load q in the plane of the plate, and loaded by a distributed load p perpendicular to the plane of the plate. The plate is compressed additionally by two concentrated forces P and also has points of support between the edges. 2. A rectangular plate freely supported on the perimeter, compressed at two opposite edges by a distributed load q in the plane of the plate, and loaded by a distributed load p perpendicular to the plane of the plate. The case where an additional point of support is added is also considered. The solutions of the partial differential equations in the form of infinite series are found from the given conditions, and the critical values of P and q in both cases are determined. *T. Leser* (Lexington, Ky.).

Source: Mathematical Rev[illegible]

NOWACKI, W.

Nowacki, W. Sur les problèmes de la stabilité d'une plaque orthotrope. Arch. Méc. Appl., Gdańsk 2, 169–182 (1950). (French. Polish summary)

The buckling of an infinitely long orthotropic plate under pairs of concentrated compressive forces perpendicular to the long edges is studied by means of an approximation due to Sommerfeld [Z. Math. Physik 54. 113–153 (1907)]. The method consists in dropping the initial stress terms from the differential equations and adding a boundary condition which is equivalent to the equilibrium of the transverse forces across a section of the plate at the point where the concentrated forces are applied. The equation is solved by separation of variables and the critical loads computed from the boundary conditions. The following cases are considered: a single pair of concentrated forces, an infinite set of equal concentrated forces equally spaced, a pair of forces at the edge midpoints of a finite rectangular simply supported plate, concentrated forces with sinusoidal distributed forces acting between them, a clamped rectangular plate, two pair of concentrated forces, and a semi-infinite plate under one pair of forces. *G. H. Handelman* (Pittsburgh, Pa.).

Source: Mathematical Reviews, Vol 13 No. 9

NOWACKI, W.

Mathematical Reviews
Vol. 14 No. 10
Nov. 1953
Mechanics

Nowacki, W., and Turski, St. Application of the Fourier integral to the theory of orthotropic plates. Arch. Méc. Appl., Gdańsk 3, 89–97 (1951). (Polish. Russian summary)

The author considers a composite plate, infinite in the y direction. The supports are parallel to the y-axis dividing the plate into parallel strips, each having different elastic properties. The plate is orthotropic which means that the elastic constants (elasticity modulus and Poisson ratio) are different in x and y directions. The loads act along a finite line parallel to the y-axis and symmetrical with respect to the x-axis. The differential equation for plates of this kind was derived by T. Huber [La théorie générale des hourdis en béton armé, Lwow, 1914]. The author expresses the loads and the moments on the supports in the form of Fourier integrals; from the conditions of continuity on the supports he obtains a three-moment equation similar to the three-moment equation for continuous beams, and solves the problem, which means find the deflections. The total deflection is obtained by superposition of the deflection due to the load and the deflections due to the moments on the supports. A special case when one strip of an infinite plate is fixed at the edges and loaded by a concentrated force is obtained by substituting in general formulas the given conditions. It is compared with the solution of A. Nádai [Bauingenieur 2, 299–304 (1921), p. 301]. Nádai solved this particular problem in a different way and both solutions agree.

T. Leser (Lexington, Ky.).

NOWACKI, W.

458. Nowacki, W. Orthotropic plate strip (in Polish)
Arch. Mech. stos. 3, 3/4,259-270, 1951.

Paper analyses the freely supported orthotropic plate strip acted on by a concentrated load. The solution of the quasi-bi-harmonic differential equation for the deflection of the plate is found by means of the solution of a set of two partial equations; this constitutes an analogy to the two-step method given by H. Marcus for isotropic plates. Author obtains the expressions for bending moments, twisting moments, and shearing forces in finite form for all kinds of orthotropy ($p \neq 1$). The results may be used for the computation and construction of influence surfaces for the considered plate strip. W. Olszak, Poland

NOWACKI, W.

450. Nowacki, W., Rectangular plates with mixed edge conditions (in Polish), *Arch. Mech. Stos.* 3, 3-4, 439-455, 1951.

In this paper author solves two types of problems: (1) Plate freely supported on two opposite edges, completely clamped on a certain segment and freely supported on the rest; (2) rectangular plate additionally supported on linear segments parallel to the edges. Solution consists of two parts, one of them, $w_0(x,y)$, being the solution for the plate of uniform edge conditions; the second, $w_1(x,y)$, taking into account the influence of clamping or supporting on the segments. The solution is obtained in the form of Fredholm's integral equation of the first kind or in the form of a set of integral equations. The proposed procedure is illustrated by the example of a plate in the form of a half strip with mixed edge conditions on the short side (full clamping on the segment c_1, free support on the rest of this side). The solution leads to the equation

$$[\partial w_0(x,0)/\partial y] + c_1 \int_{c_1} M(\xi)[\partial K(x,0;\ \xi,0)/\partial y]d\xi = 0$$

where $M(\xi)$ is the unknown function of clamping moments on the segment c_1, and $K(x,y;\ \xi,0)$ is Green's function for the freely supported half strip for the state $M = 1$, acting in $(\xi,0)$ of the short side of the plate.

—W. Olszak, Poland

NOWACKI, W.

Applied Mechanics Review
Vol. 7 No. 4
Apr. 1954
Structure

1079. Nowacki, W., On the Application of finite differences in structural mechanics (in Polish), Arch. mech. stos, 3, 3/4, 483-512, 1951.

Author presents in very uniform and systematic manner the solutions of many problems, typical for structural mechanics, and shows the analogy between the solution of difference equations and the solution of integral equations. The derived solutions are given in general form and are obtained by use of the conjugate matrix of the system of equations containing three or five terms. The theory of difference equations is here applied to solving the following problems: The simultaneous bending and compression of a straight bar, and the transverse vibrations of rectangular plates compressed by forces distributed nonuniformly. In particular, author solves, by the method of finite differences, the case of vibrations of a bar with variable cross section, when the determination of the frequency of vibrations causes several difficulties. Author, analyzing the buckling of the plate, replaces the difference equations of fourth order for the rectangular plate by a system of difference equations of second order. The work contains numerical examples of calculations and compress the results obtained by the method of finite differences with results obtained by other methods.

W. Wierzbicki, Poland

NOWACKI, W.

2

ATD

Applied Mechanics Reviews
Vol. 7 No. 4
Apr. 1954
Structures

S1084. Nowacki, W., and Dabrowski, R., Silos—methods of calculation and construction [Silosy—Metody obliczeń i konstrukcji], Warsaw, Państwowe Wydawnictwa Techniczne, 1953, 301 pp.

Book represents an extensive and informative monograph of four parts: I. Calculation of the pressure of loose materials in silos according to the methods of Janssen, Airy, Dorr, and Fraenkel, with a critical comparison of these methods. II. Statical calculations of rectangular and spherical silo compartments, and the theory of bending of the cylindrical vault with variable and nonvariable thickness. The calculation of the hopper, box ridge of compartment walls (plate girders) and foundations. III. Construction of silos by using different methods of execution. IV. Several accurately described examples of executed constructions.

In the book authors [illegible] use of [illegible] ture in the calculation and construction of silos [illegible] ressible world literature. The book belongs among the most valuable publications of the Polish constructors' [illegible]

[illegible]

NOWACKI, WITOLD

(1)

Płyty Prostokątne o Mieszanych Warunkach Brzegowych (Plates of Mixed Boundary Conditions). II. Witold Nowacki. *Arch. Mech. Stosowanej* (Warsaw), No. 2, 1953, p. 193. In Polish; abridged in English. Method of solving bending problems of rectangular plates with one edge divided into segments of different, arbitrary pairs of homogeneous boundary conditions, with all edges divided into segments simply supported and built in and arranged in an arbitrary manner, and with slopes for representing figures composed of rectangles.

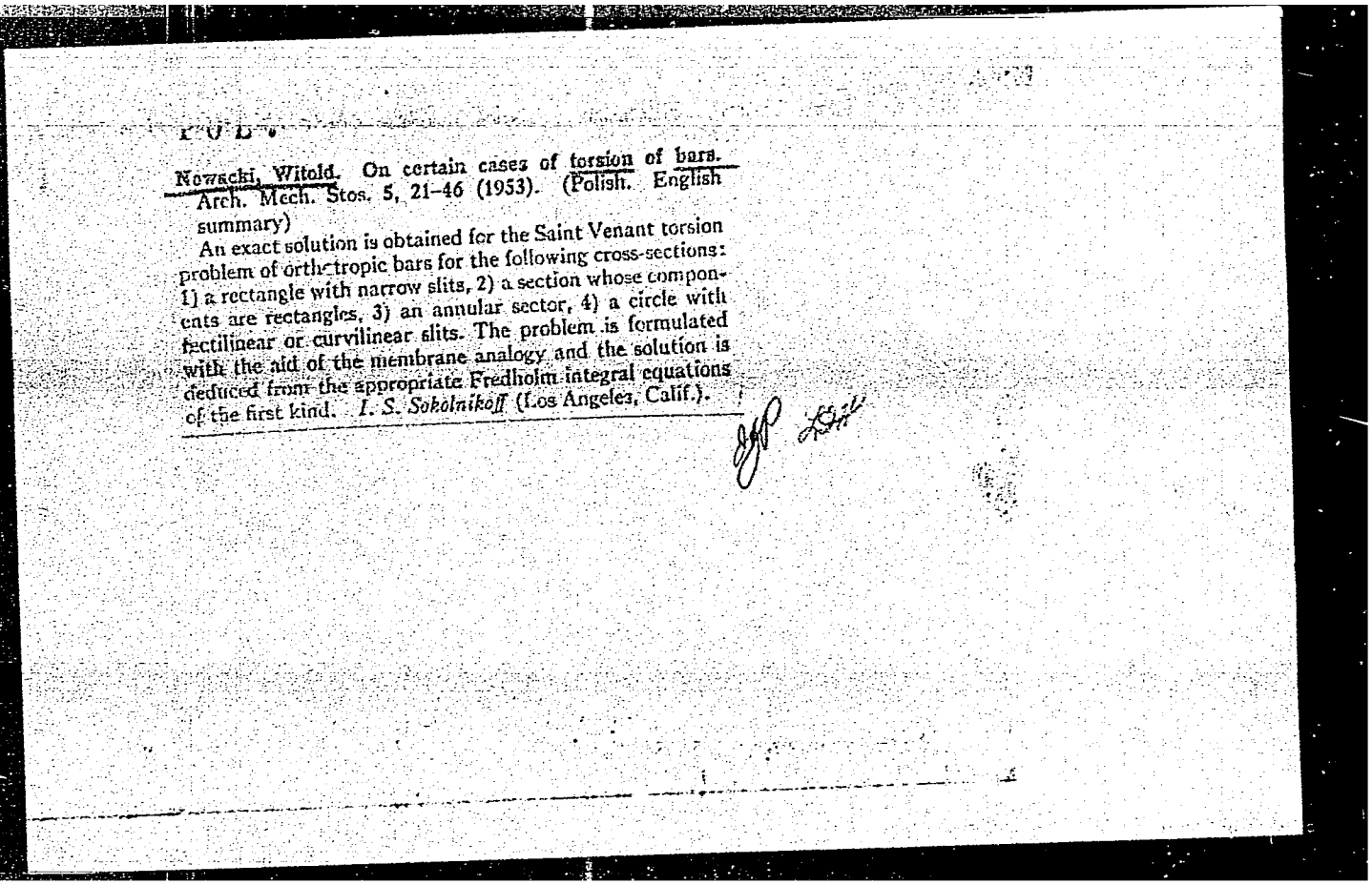
10-13-57

NOWACKI, W.

[ ] Powierzchnie Wpływowe Płyt o Kontурze w Postaci Wycinka Pierścienia Kołowego (The Influence Surfaces of Plates Representing Annular Sectors). W. Nowacki and J. Mossakowski. *Arch. Mech. Stosowanej* (Warsaw), No. 2 1952, p. 237. In Polish, abridged in English. Determination of the influence surfaces for the deflection of a plate, in terms of the bending and torsional moments, and of the shearing forces, with the function of Green obtained for an infinite wedge simply supported at the edges. A solution of the basic problem.

NOWACKI, WITOLD

Drgania Własne i Wyboczenie Płyt Prostokątnych Podpartych Swobodnie na Obwodzie i Punktowo w Obrębie Płyty (Vibrations and Buckling of Rectangular Plates Simply Supported on the Periphery and at Several Points Inside). Witold Nowacki. *Arch. Mech. Stosowanej* (Warsaw), No. 3, 1953, p. 437. In Polish; abridged in English and Russian.



Nowacki, Witold. On certain cases of torsion of bars. Arch. Mech. Stos. 5, 21–46 (1953). (Polish. English summary)

An exact solution is obtained for the Saint Venant torsion problem of orthotropic bars for the following cross-sections: 1) a rectangle with narrow slits, 2) a section whose components are rectangles, 3) an annular sector, 4) a circle with rectilinear or curvilinear slits. The problem is formulated with the aid of the membrane analogy and the solution is deduced from the appropriate Fredholm integral equations of the first kind. *I. S. Sokolnikoff* (Los Angeles, Calif.).

NOWACKI, WITOLD

POL.

Nowacki, Witold. Plates of mixt boundary conditions. II. Arch. Mech. Stos. 5, 193–220 (1953). (Polish. English summary) 1 - F/W

This is an extension of an earlier paper [same Arch. 3, 419–435 (1951); these Rev. 14, 601]. It contains: (1) A description of the author's method of solving bending problems of rectangular plates with one edge divided into segments of different, arbitrary pairs of homogeneous boundary conditions. (2) A generalization of the above method, in some cases, for plates with all edges divided into segments simply supported and built in, arranged in an arbitrary manner. (3) A method of solving bending problems of rectangular plates with slits, as well as continuous plates, or representing figures composed of rectangles.

From the author's summary.

NOWACKI, WITOLD

4

POLON

Nowacki, Witold. Vibrations and buckling of rectangular plates simply supported on the periphery and at several points inside. Arch. Mech. Stos. 5, 437–454 (1953). (Polish. Russian and English summaries)

The object of this investigation is to find the influence of a point support on a plate described in the title, which is compressed by loads acting on the opposite two edges. Such formulation of the problem led to problems of buckling and free vibrations in the absence of compressive loads. The author begins by solving a plate loaded normally by a vibratory concentrated load of frequency ω. He finds the deflection under the load, sets it equal to zero, and solves the resulting equation for the frequency ω, obtaining roots $\omega_1, \omega_2, \cdots$. These roots represent natural vibration frequencies of the plate supported at the point where the load acted previously. When the compressive loads increase, the natural frequency decreases and the load for which the frequency approaches zero is the critical load. In the next paragraph the author investigates the influence of the location of point support and of the dimension ratio of the plate on the critical load. He investigates also two or more point supports and one linear support. In the third paragraph the author analyzes free vibrations of a plate with one or more additional supports. *T. Lesser* (Aberdeen, Md.).

W=F/W

NOWACKI, W.

MN

Nowacki W. Some Problem from the Theory of Flat Gridworks.
Zagadnień teorii rusztów płaskich". Archiwum Mechaniki Stoso-
wanej (PAN). No. 1, 1954, pp. 101—138, 13 figs., 3 tabs.

Discussion of the problem of combined bending and compre
and of the problem of buckling of a flat gridwork. The gridwork consists
of many evenly spaced identical beams, supported by several trans-
versal girders. Considering the forces acting between the longitudinal
and transversal beams as continuously distributed along the latter, the
problem can be reduced to solving a system of linear differential equ-
ations. This makes it possible to obtain the deflections of transversal
beams of integrating equations, and to find the critical forces by solving
a corresponding boundary problem. It is demonstrated, that in the case
of transversal, evenly spaced beams, of identical cross sections, com-
pressed by a force S, the system of equations can be replaced, for more
than three transversal beams, by the equation of buckling of an ortho-
tropic plate the torsional rigidity of which is equal to zero. A general
solution of the problem of buckling of the gridwork, obtained by means
of the energy method, is given. It is shown, that for transversal beams
of identical cross sections, evenly spaced and compressed with equal
forces, the results obtained by means of the energy method approximate
closely to those obtained by means of the orthotropic plate model. The
problem is discussed of the number of transversal beams, considered as
resting on an elastic base. In the second part, appears a solution con-
cerning the case of compression of continuously distributed longitudinal

(OVER)

W. NOWICKI

bars. Solutions for one, two and four transversal beams. The results obtained for four transversal beams are compared with those obtained by means of the orthotropic model and the degree of concurrence is found to be considerable. This makes possible the conclusion that for technical purposes the system of differential equations can be replaced, for four and more transversal beams, by a single simple differential equation. Finally, the lines of influence (Green's function) are given for a compressed gridwork, the force $P = 1$ being moved along the transversal and the longitudinal bars. This function can be used to determine the deflection and the statical quantities for any load; it can be equally used to find the critical force for a gridwork supported on the boundary and at certain additional points inside.

3/2

q_y q

NOWACKI, W.

POL

2328. Nowacki, W., The stability of rectangular plates with ribs, *Bull. Acad. Polonaise Sci.* 2, 2, 85-90, 1954.

Assuming that there is no friction between the ribs and the plate and making use of trigonometric series, author obtains a general solution for buckling of simply supported rectangular plates reinforced by both longitudinal and transverse ribs and compressed in both directions. Numerical examples are given for three special cases. This work, in effect, generalizes Timoshenko's solutions for the buckling of simply supported compressed rectangular plates with either longitudinal or transverse ribs [S. Timoshenko "Theory of elastic stability," McGraw-Hill Book Co., 1st ed., pp. 372-382].

[illegible] C. Lib, USA

Nowacki, Witold

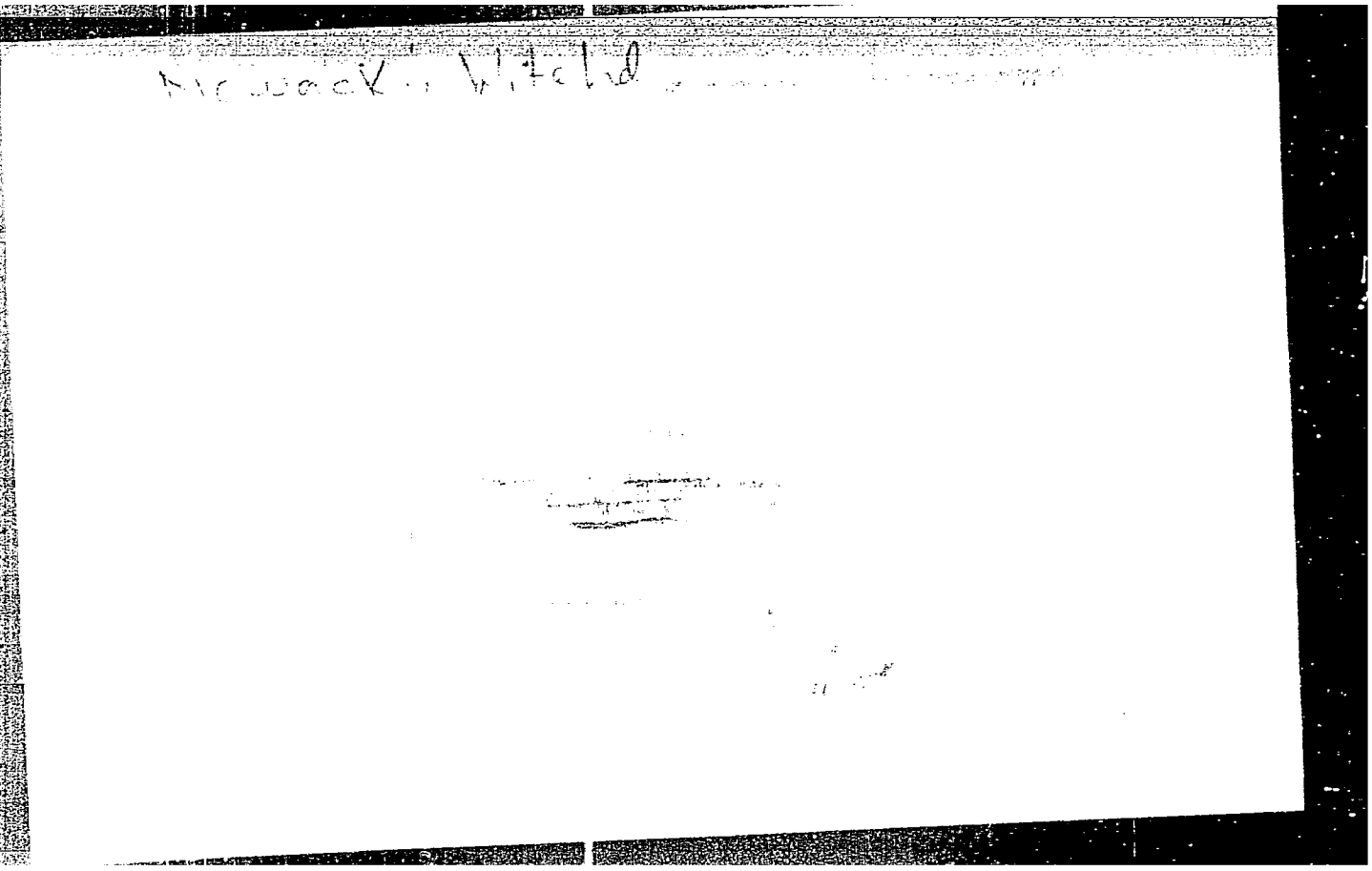
Nowacki, Witold. The statics of flat gridwork systems. Rozprawy Inż. 2, 143–187 (1954). (Polish. Russian and English summaries) 1-F/W

The author defines a flat gridwork system to be a flat system of frames loaded by forces perpendicular to the plane of the system and/or by moments whose vectors lie in the plane of the system. As a rule such a structure is statically indetermined and the most suitable method to solve it is the deformations method which is used by the author. He outlines a solution procedure in a general case, analyzes in more detail the case of curved and broken-line bars, solves special cases of gridwork systems common in building practice, and presents a theory of gridwork systems on elastic foundations. *T. Leser* (Aberdeen, Md.).

NOWACKI, WITOLD

POL

Zagadnienia Statyki i Dynamiki Płyt Wzmocnionych Żebrami (Statics and Dynamics of Plates with Ribs), Witold Nowacki. *Arch. Mech. Stosowanej* (Warsaw), No. 4, 1954, pp. 601-638. In Polish, with summaries in English and Russian. Solution of the problems of free and forced vibrations of a rectangular plate with longitudinal and transversal ribs, with frequency analyses of critical forces for the cases of simple bending, simultaneous bending and compression, and stability.



NOWACKI, WITOLD

POL.

Nowacki, Witold. The determining of stresses and deformations in transversally isotropic elastic bodies. 1-P/W
Arch. Mech. Stos. 5 (1953), 545–556 (1954). (Polish. Russian and English summaries)

The author presents a general solution of the equations of linear elasticity for transversely isotropic materials which was given earlier by Hu [Acta Sci. Sinica 2, 145–151 (1953); these Rev. 15, 1004]. Hu remarked that this solution is not complete and presented a solution which is. The author's main contribution seems to be the solution of certain boundary-value problems. Superficially, it would appear that some of these may be included among those given by Higuchi [Rep. Res. Inst. Appl. Mech. Kyushu Univ. 3, 143–145 (1954); these Rev. 16, 197]. *J. L. Ericksen.*

POL. 1

1-2/11

Nowacki, Witold. Thermal stresses in anisotropic bodies. I. Arch. Mech. Stos. 6, 481–492 (1954). (Polish. Russian and English summaries)

The author deduces the Betti-Rayleigh reciprocal theorem for a nonhomogeneous anisotropic elastic body subjected to nonuniform heating and obtains the formulas for the mean deformations in the heated body. *I. S. Sokolnikoff.*

3

POL.

228/116 624.073.1 :534.121.1

Statics and Dynamics of Plates Supported by Ribs

Arch. Mech. Stosowanej 6(4), 601-638 1954 Poland

W. Nowacki

An exact solution of the problems of free and forced vibrations of a rectangular plate with longitudinal and transversal ribs is given. From the condition of equality of deflection and rotation of plate and ribs a sufficient number of non-homogeneous linear equations is obtained in order to find the Fourier expansion coefficients of the unknown functions. The statical problem of bending a plate with ribs, simultaneous bending and compression, and its stability, are discussed in detail. (Bibl. 9)

Nowacki W

POL

229/116 624.073.1 : 534.121.1

Free Vibrations and Buckling of a Rectangular Plate with all Edges Built in

W. Nowacki

Arch. Mech. Stosowanej 6(4),657-663 1954 Poland

A general solution of the problem of free vibrations of a plate subjected to compression or tension is attempted. A system of two equations is obtained on the assumption that the plate is built in at all edges and considering the symmetrical or antisymmetrical form of vibrations as well as the symmetry of loads. The method described can be applied to plates with one, two or three edges built in, the other being simply supported, and can also be modified for orthotropic plates. (Bibl. 7)

NOWACKI, W.

3513. Nowacki, W. A contribution to the theory of orthotropic plates (in German), *Acta Techn. Hung. Budapest* 2, 1/2, 109–128, 1951.

Author gives a brief survey of the merits of Polish scientists, particularly M. T. Huber, concerning the development of the theory of orthotropic plates. By means of Green's function he solves several problems of the plate-strip type with various mixed boundary conditions at the transversal edge. The longitudinal edges are assumed to be simply supported.

F. M. Mueller, USA

GP sent

NOWACKI, W.

"W. Wierzbicki's Zadania z teorii naprezen, wyboczenia i drgan (Exercises in the Theory of Strains, Deformations, and Oscillations); A Book Review", P. 151. (PRZEGLAD TECHNICZNY, Vol. 75, No. 4, Apr. 1954, Warszawa, Poland)

SO: Monthly List of East European Accessions, (EEAL), LC, Vol. 4, No. 1, Jan. 1955 Uncl.

Nowacki, W.

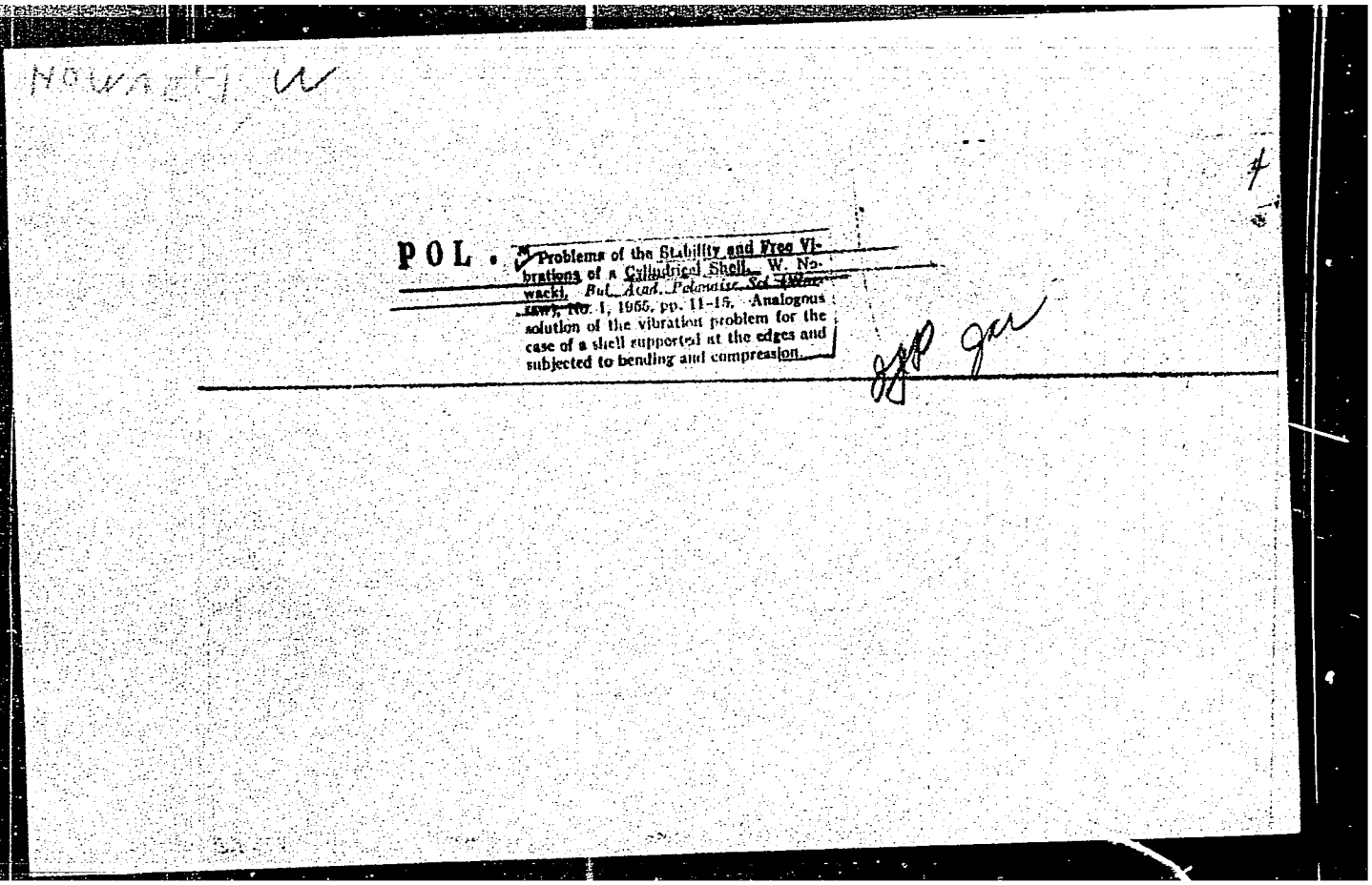
4186

725.26 : 621.706.6

Nowacki W., Dąbrowski R. Silos. Methods of Calculation and Construction. 2nd ed.

„Silosy. Metody obliczeń i konstrukcja." Wyd. 2. Warszawa, 1955, Budown. i Archit., 16°, 361 pp., 336 figs., 27 tabs.

A discussion of the theoretical fundamentals of problems of pressure of loose bodies in, and static calculations of, silos. Detailed descriptions, with examples, of the construction of various types of chambers for storing loose material.



POL . "Problems of the Stability and Free Vibrations of a Cylindrical Shell," W. Nowacki, *Bul. Acad. Polonaise. Sci. Warszawy*, No. 1, 1955, pp. 11-16. Analogous solution of the vibration problem for the case of a shell supported at the edges and subjected to bending and compression.

Nowacki, W.

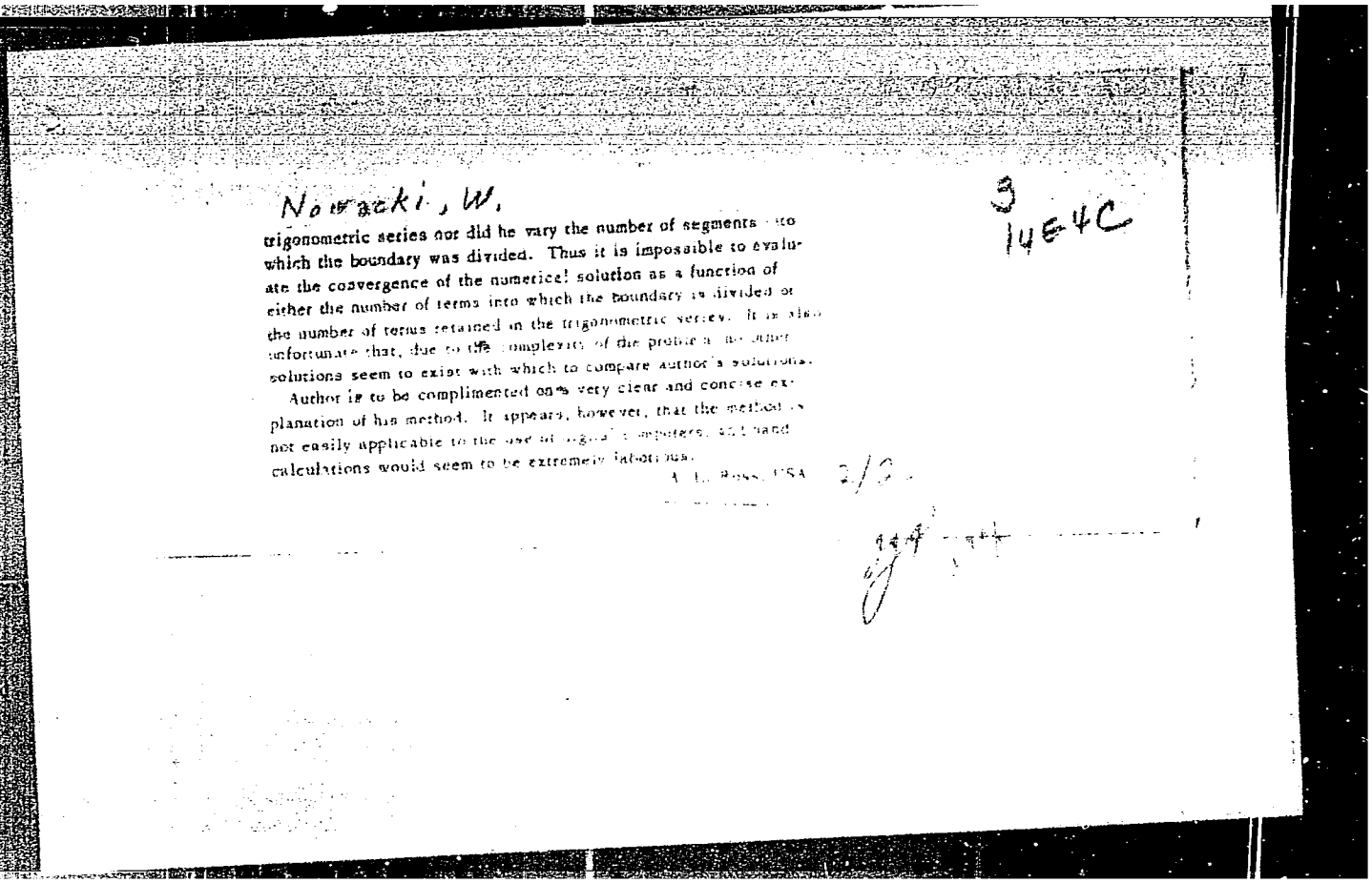
O Pewnych Zagadnieniach Brzegowych Teorii Sprężystości. Witold Nowacki. Arch. Mech. Stosowanej (Warsaw), No. 1, 1955, pp.483-502. In Polish, with summaries in English and Russian. Analysis of boundary problems to generalize the methods of structural analysis to the problems of the theory of elasticity.

Nowacki, W.

1339. Nowacki, W. Free vibrations and buckling of a [illegible] plate with discontinuous boundary conditions. Bull. [illegible] Polonaise Sci. 3 : 159-171, 1955.

The method, which is basically a numerical analysis [illegible] Green's function (which involves the eigenvalues in the [illegible] assumes an infinite trigonometric series for the "unit [illegible] the boundary having "discontinuous conditions." The [illegible] equations for determining Green's function involves the eigen[illegible] (the [illegible] natural frequencies) and the coefficients [illegible] Hagen [illegible] discontinuities [illegible] tion along the boundary. This results in a system of [illegible] each term of which, however, is an infinite series (truncated for calculation purposes) of transcendental terms involving the desired eigenvalues. The eigenvalues are determined by setting the determinant of this system of equations equal to zero.

Author has three example problems, in one of which the [illegible] homogeneous portion of the boundary was divided into three equal segments (which results in a system of three equations). He then evaluates the eigenvalues by a trial-and-error method. [illegible] sketch he did not state how many terms were taken in the



Nowacki, W.

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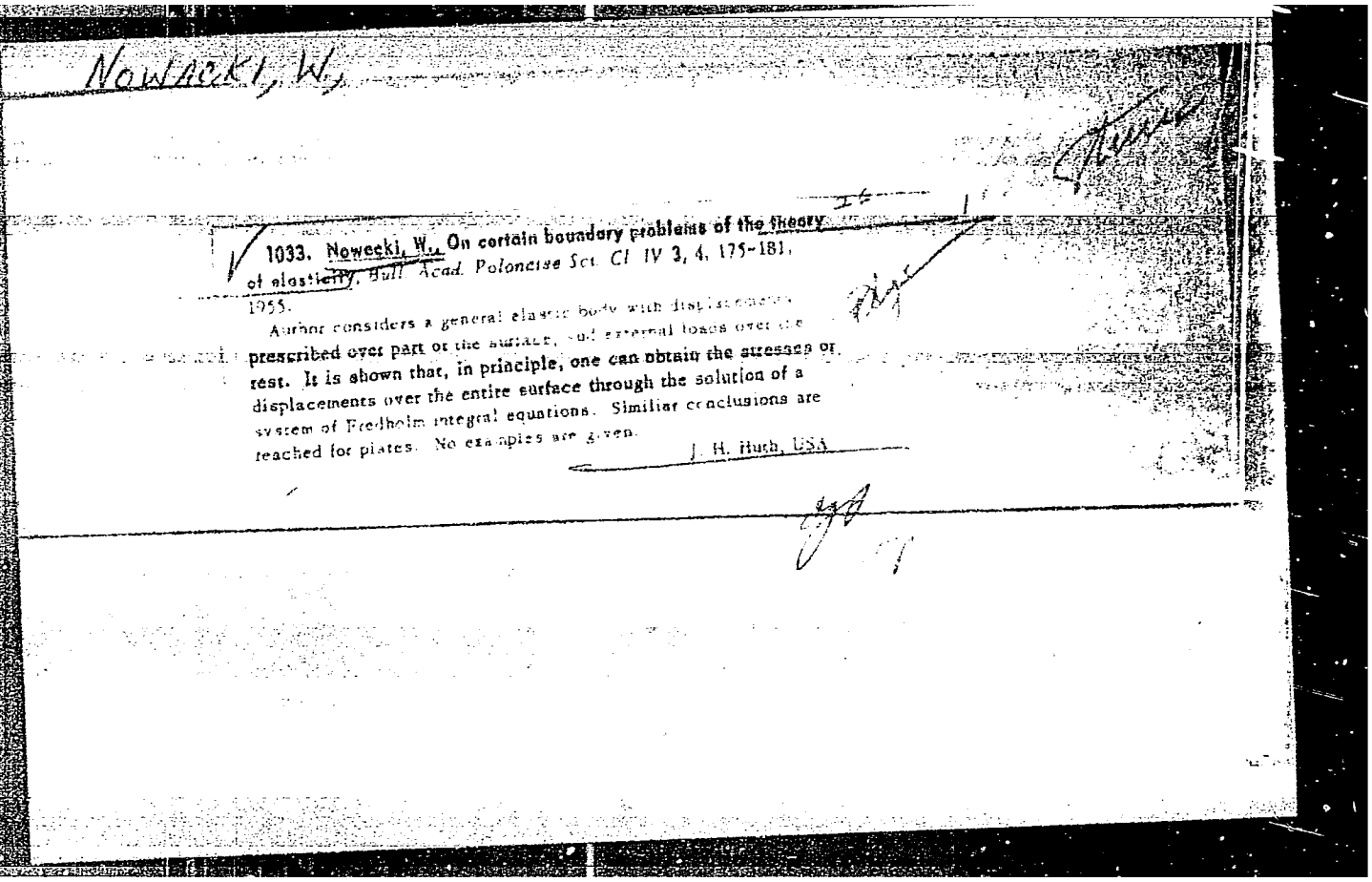
14E4C

trigonometric series nor did he vary the number of segments into which the boundary was divided. Thus it is imposable to evaluate the convergence of the numerical solution as a function of either the number of terms into which the boundary is divided or the number of terms retained in the trigonometric series. It is also unfortunate that, due to the complexity of the problem, no other solutions seem to exist with which to compare author's solutions.

Author is to be complimented on his very clear and concise explanation of his method. It appears, however, that the method is not easily applicable to the use of digital computers, as hand calculations would seem to be extremely laborious.

A. L. Ross, USA

2/2



Nowacki, W.

1033. Nowacki, W. On certain boundary problems of the theory of elasticity. Bull. Acad. Polonaise Sci. Cl. IV 3, 4, 175–181, 1955.

Author considers a general elastic body with displacements prescribed over part of the surface, and external loads over the rest. It is shown that, in principle, one can obtain the stresses or displacements over the entire surface through the solution of a system of Fredholm integral equations. Similar conclusions are reached for plates. No examples are given.

J. H. Huth, USA

NOWACKI, W.

The stress function in three-dimensional problems concerning an elastic body characterized by transverse isotropy. In English. p. 21

SO: East European Accessions List (EEAL). LC. Vo. 4, No. 11 Nov. 1965 unclass.

Nowacki, Witold 4

V Nowacki, Witold. Buckling and free vibrations of a cylin- 1 - EAW
drical shell. Arch. Mech. Stos. 7, 111–131 (1955).
MS (Polish. Russian and English summaries)
An exact solution of the problem of buckling and free vibrations of a circular cylindrical shell for different ways of supporting the edges is given.
From the author's summary.

Nowacki, Witold

2

Nowacki, Witold. Some problems of dynamics and stability of a rectangular plate with discontinuous boundary conditions. Arch. Mech. Stos. 7 (1955), 266–284. (Polish. Russian and English summaries)

1 - F/W

Math

The author considers a rectangular plate compressed laterally by a load q distributed on two opposite edges and carrying also a normal distributed periodic load, $p(x, y) \sin \alpha t$. The boundary conditions are as follows: three edges are freely supported, a part of the fourth edge is freely supported or free, the remaining part is built-in. The total deflection of the plate is a sum of a deflection w_0 of a freely supported plate with a normal load $p \sin \omega t$, and a deflection w_1 of a freely supported plate with a moment $M \sin \omega t$ distributed along the built-in edge. The Green function in this case is the equation of the deflection surface caused by a concentrated unit moment $1 \cdot \sin \omega t$ acting at one point at the built-in edge. The procedure leads to a Fredholm integral equation of the first kind where the unknown function is the moment M. The author evaluates the Green function which in turn permits him to find M from the Fredholm integral equation. An approximate solution of the last equation where the integral is replaced by a sum leads to a system of homogeneous equations. The natural vibrations and

1/2

Nowacki, W.; Told

2001

the critical load q can be found from the determinant of this system.

The general procedure is illustrated on examples of: (i) a square plate a by a where one edge is built-in along the segment $a/2$, the remaining segment $a/2$ and the other edges are freely supported, on rectangular plates where, (ii) part of one edge is built-in, the remaining part is free, and the other three edges are freely supported, (iii) part of one edge is free, the remaining part and the other three edges are freely supported, (iv) freely supported all edges with a slit along one axis of symmetry of the plate.

T. Leser (Aberdeen, Md.).

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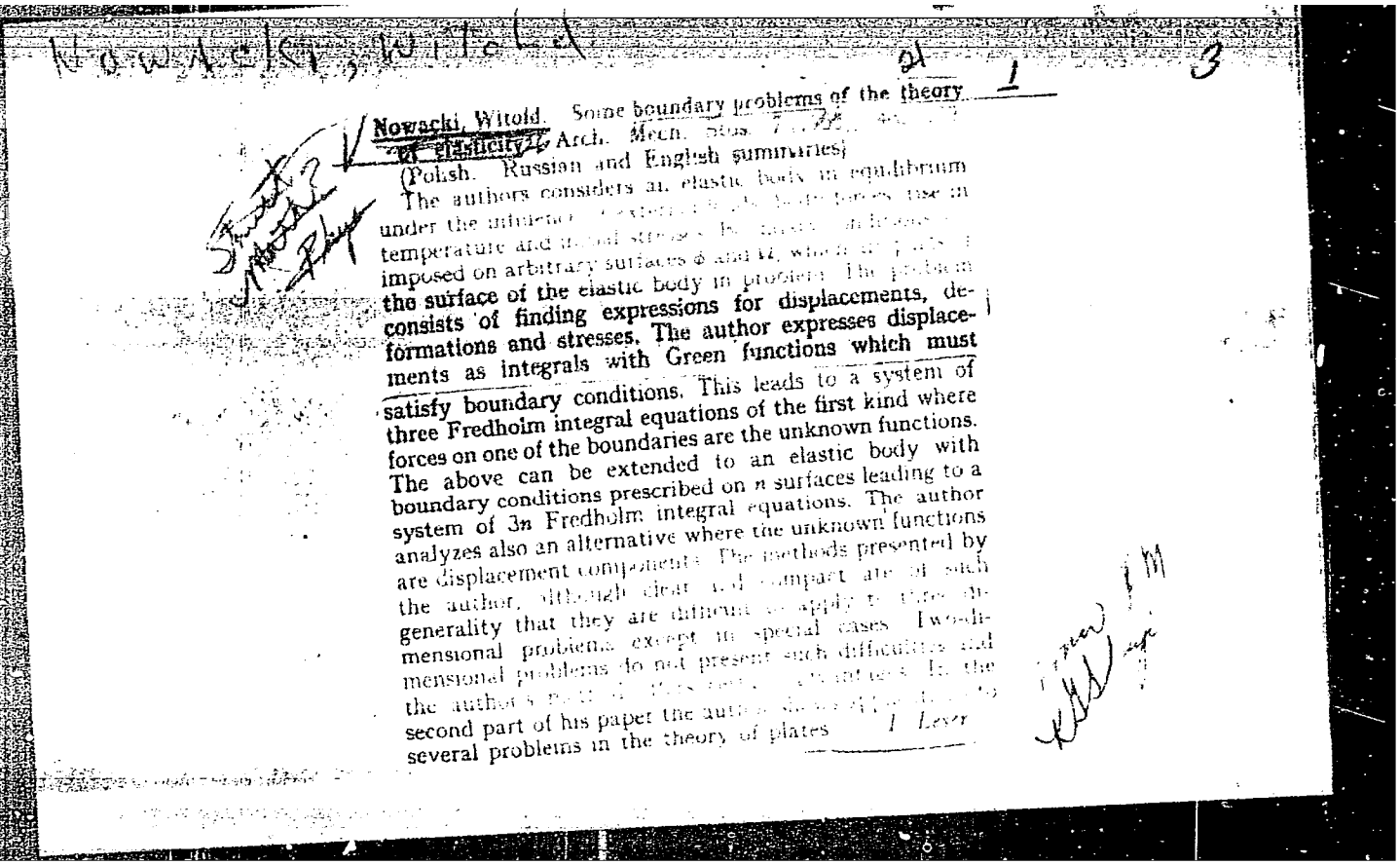
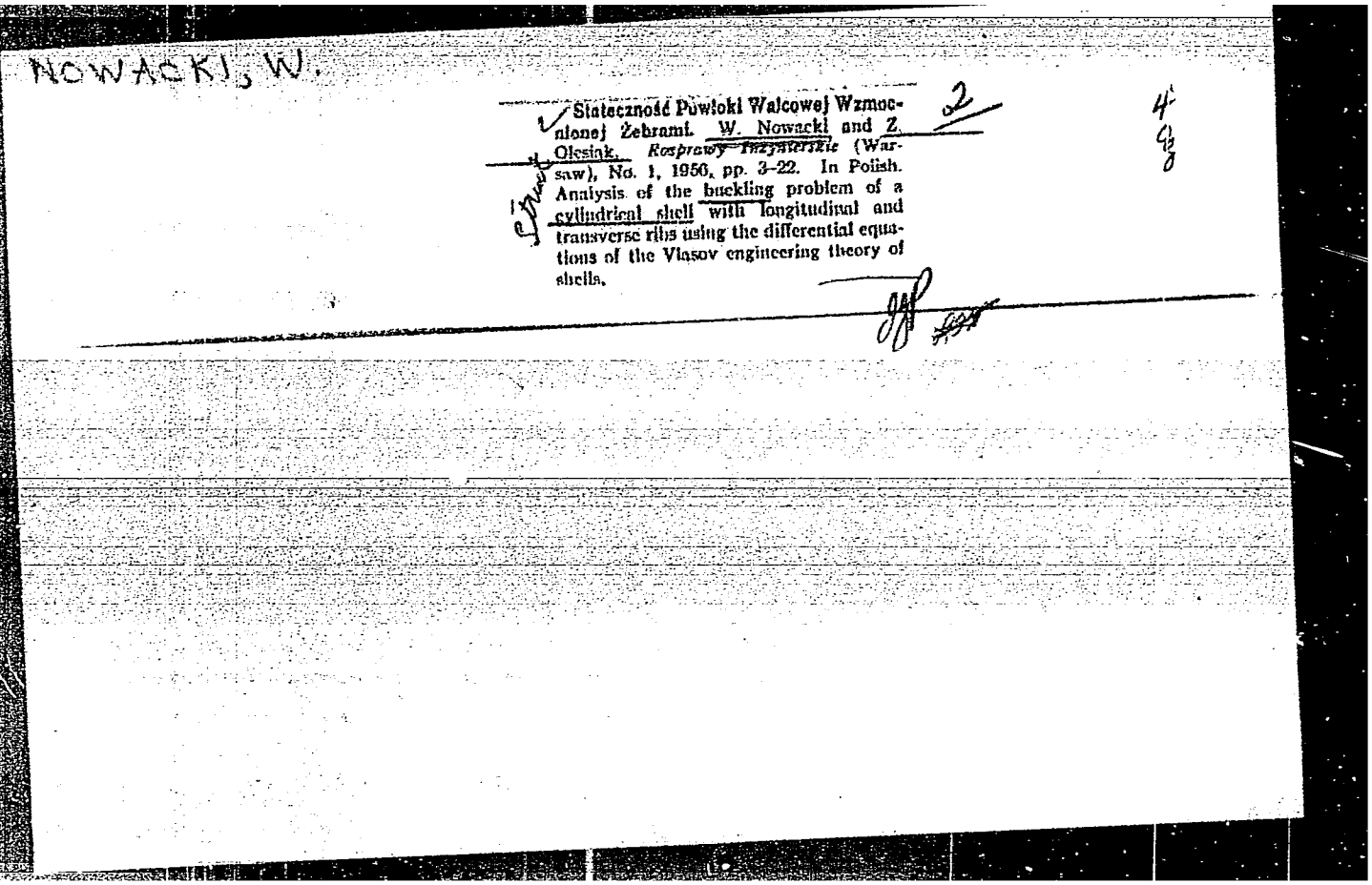


Nowacki, Witold. Some boundary problems of the theory of plasticity. Arch. Mech. Stos. 7 (1955), 725–[illegible]. (Polish. Russian and English summaries)

The authors considers an elastic body in equilibrium under the influence [illegible] temperature and [illegible] imposed on arbitrary surfaces Φ and Π, which [illegible] the surface of the elastic body in problem. The problem consists of finding expressions for displacements, deformations and stresses. The author expresses displacements as integrals with Green functions which must satisfy boundary conditions. This leads to a system of three Fredholm integral equations of the first kind where forces on one of the boundaries are the unknown functions. The above can be extended to an elastic body with boundary conditions prescribed on n surfaces leading to a system of $3n$ Fredholm integral equations. The author analyzes also an alternative where the unknown functions are displacement components. The methods presented by the author, although clear and compact are of such generality that they are difficult to apply to three dimensional problems except in special cases. Two-dimensional problems do not present such difficulties and the author's [illegible] In the second part of his paper the author [illegible] several problems in the theory of plates. I. Lever



NOWACKI, W.

Stateczność Powłoki Walcowej Wzmocnionej Żebrami. W. Nowacki and Z. Olesiak. *Rozprawy Inżynierskie* (Warsaw), No. 1, 1956, pp. 3–22. In Polish. Analysis of the buckling problem of a cylindrical shell with longitudinal and transverse ribs using the differential equations of the Vlasov engineering theory of shells.

NOWACKI, WITOLD

NAPREZENIA CIEPLNE W POWŁOKACH WALCOWYCH. Witold Nowacki. Arch. Mech. Stosowanej (Warsaw), No. 1, 1956, pp. 69-83. In Polish, with summaries in English and Russian. Calculation of the thermal stresses in a circular cylindrical shell due to the temperature increase which varies linearly across the thickness of the shell. Calculations are made using Maysel's integral relation and Vlasov's theory of shells. Solutions are obtained by using a trigonometric series for a shell simply supported at the edges and for a shell having alternate segments simply supported and built in.

NOWACKI, WITOLD

NAPRĘŻENIA MONTAŻOWE W PŁYTACH. Witold Nowacki. Arch. Mech. Stosowanej (Warsaw) No. 2, 1956, pp. 215-232. In Polish, with summaries in English and Russian. Analysis of the assemblage stresses in plates, considering a plate which has a slight initial curvature, and culminating in a method of solution for a plate simply supported on part of its periphery and rigidly fixed at the remaining part. The problem is reduced to the solution of a system of integral equations. Includes some simple illustrative examples.